

USSN: 09/817,387

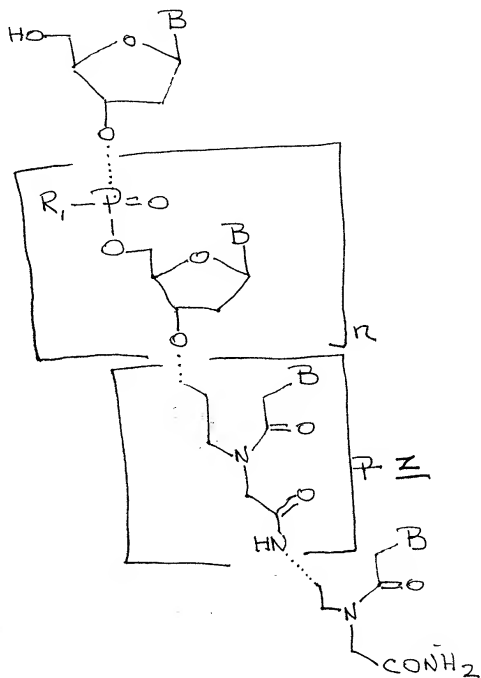
Response to Office Action dated January 10, 2007

~~Atty Docket: 101195-24~~

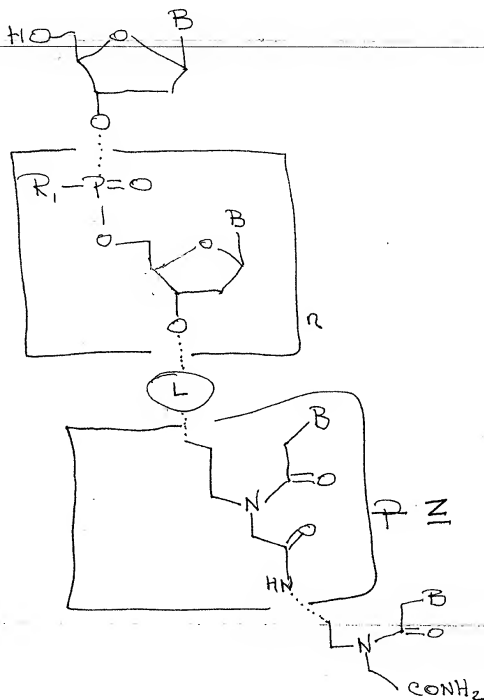
Page 2

II. CLAIMS:

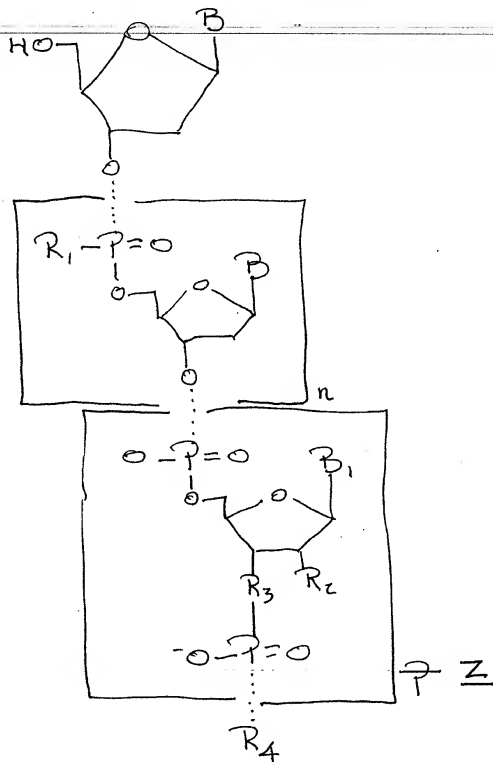
1. (Currently amended) Chimeric oligonucleotides of the formula
I, II or III



I



II



III

and wherein

n is at least 10 and not more than 20,

R₁ is selected from the group consisting of S⁻, CH₃, and O⁻, where at least one R₁ is S⁻,

B is selected from the group consisting of thymine, cytosine, adenine, and guanine,

[[p]] z is at least 3 and not more than 17,

B₁ is selected from the group consisting of thymine, cytosine, adenine, guanine, 5-propyluracil, and 5-propylcytosine,

R₂ is selected from the group consisting of H, F, NH₂, O-alkyl (C₁ - C₅), O-allyl, and O-methoxyethoxy,

R₃ is selected from the group consisting of NH and O, wherein if R₃ is NH, R₂ must not be selected from the group consisting of NH₂, O-alkyl (C₁ - C₅), O-allyl, and O-methoxyethoxy,

R₄ is selected from the group consisting of 2',3'-dideoxy-3'-fluoroguanosine, 2',3'-dideoxy-3'-azidoguanosine, 2',3'-dideoxy-3'-aminoguanosine, 2',3'-acyclovir, gancyclovir, 2'-deoxyadenosine, 2'-deoxyguanosine, 2'-deoxycytidine, and 2'-deoxythymidine,

L is selected from the group consisting of [=]-(PO₂)-OCH₂-COH-CH₂-NH- and -(PO₂)-OCH₂-CH(CH₂COOH)-(CH₂)₄NH-

and wherein each chimeric oligonucleotide inhibits telomerase activity.

2. (Previously Presented) The oligonucleotides according to claim 1 of formula I or II.

3-4. Cancelled

5. (Original) The oligonucleotides according to claim 1, wherein R_1 to R_4 and B and B_1 vary from a nucleotide unit to another nucleotide unit.

6. (Currently Amended) The oligonucleotides according to claim 1, wherein the oligonucleotides having a nucleotide sequence is selected from the group consisting of

5'-TCAGATTAGTACTCGTCAGAGTTAGGGTTAG-3' (SEQ ID No. 1)

5'-TCAGATTAGGACTGCTCAGAGTTAG-3' (SEQ ID No. 2)

5'-TCAGATTAGTACTCGTCAGACAGTTAGGGTTAG-3' (SEQ ID No. 3)

5'-TCAGATTAGTACTCGTCAGAGTTAGAGTTAG-3' (SEQ ID No. 4)

5'-TCAGATTAGGACTGCTCAGAGUUAG-3' (SEQ ID No. 5)

5'-TCAGATTAGGACTGCTCAGAUAGUUAG3' (SEQ ID No. 6)

5'-TCAGATTAGGACTGCTCAGAGUUAGCGTTAGACAA-3' (SEQ ID No. 7)

5'-TCAGATTAGGACTGCGTTAGCGTTAGACAA-3' (SEQ ID No. 8)

5'-TCAGATTAGTACTCGTCAGA-O(PO₂)OCH₂CH(CH₂COOH-(CH₂)₄-NH-TAGGGTTAGACAA-3' (SEQ ID No. 9)

5'-TCAGATTAGTACTCGTCAGAGTTAGGGTTA-azidodeoxyguanosine-3' (SEQ ID No. 10)

5'-AATCCTCCCCCACTTCACCC-GTTAGGCT-3' (SEQ ID No. 11)

5'-TCTCCCAGCGTGGCCAT-GUUAGGGUUAG-3' (SEQ ID No. 12)

5'-ATGTATGCTGTGGCT-n(L)-GTTAGG-3' (SEQ ID No. 13)

5'-GTACTGCTCAGA-GTTAGGCTTAG-3' (SEQ ID No. 14)

5'-GTACTGCTCAGA-GTTAGGGT-3' (SEQ ID No. 15)

5'-GTACTGCTCAGA-GUUAGGGUUAG-3' (SEQ ID No. 16)

5'-GTACTGCTCAGA-n(L)-GTTAGG-3' (SEQ ID No. 17)

5'-GGCCAGCAGCTG-GUUAGGGUUAG-3' (SEQ ID No. 18)

5'-TGCTCAGA-GUUAGGGUUAG-3' (SEQ ID No. 19)

~~5' TGCTCAGA-n(L) CTTAGG 3' (SEQ ID No. 20)~~
~~5' TCACACATATACTGCTCAGA-n(L) TAGGCTTAGACAA 3' (SEQ ID No. 21)~~
~~5' ACT GCT CAG A GTT AG 3' (SEQ ID No. 22)~~
~~5' ACT GCT CAG A CUU AGG CUU AG 3' (SEQ ID No. 23)~~
~~5' ATA CTC CTC AGA linker GTT AGG GTT AG 3' (SEQ ID No. 24)~~
~~5' TTA GTA CTC CTC AGA GTT AGG GTT AG 3' (SEQ ID No. 25)~~
~~5' TCA GAT TAC TAC TGC TCA GA GTT AG 3' (SEQ ID No. 26)~~
~~5' TCA GAT TAC TAC TGC TCA GA GTT AG 3' (SEQ ID No. 27)~~
and
~~5' ACT GCT CAG A GTT ACGGTTAG 3' (SEQ ID No. 28).~~

7. (Previously presented) A method of inhibiting telomerase activity, comprising the administering of chimeric oligonucleotides of claim 1 to a human tumor cell line.

8. Cancelled

9. (Currently Amended) The oligonucleotide of claim 1, wherein the oligonucleotide is bound to telomerase thereby inhibiting telomerase catalytic activity.

10. (Previously Presented) The bound oligonucleotides of claim 9 wherein said binding to telomerase occurs either inside a eukaryotic cell or in the absence of intact eukaryotic cells.

11. (Previously Presented) The bound oligonucleotides of claim 10, wherein said binding to telomerase occurs inside a tumor cell.

12.-15 Cancelled

16. (Currently amended) The method of claim 7, wherein the oligonucleotide has the structure described in SEQ ID NO: 16 ~~SEQ ID NO: 1-28~~.

17. (Previously Presented) The bound oligonucleotide of claim 9 wherein the oligonucleotide is bound to the telomerase RNA component.

18. (Previously Presented) A method of inhibiting telomerase activity *in vitro* comprising contacting the chimeric oligonucleotides of claim 1 with telomerase under conditions permissive of oligonucleotide-telomerase binding.

19. (Previously Presented) An oligonucleotide according to claim 1 bound non-specifically to a protein site.

20. (Previously Presented) The bound oligonucleotide of claim 19 where the protein site is the primer binding site.

21. (Currently Amended) The oligonucleotides of claim 1 ~~claim~~ complexed with a cationic liposome.

22. (Previously Presented) The oligonucleotides according to claim 1, of formula III.